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Pollution Prevention

Data Extraction Information for General Population, Consumer, and Environmental Exposure for 1,4-Dioxane (1,4-D)

Systematic Review Suport Document for the Supplement to the Risk Evaluation

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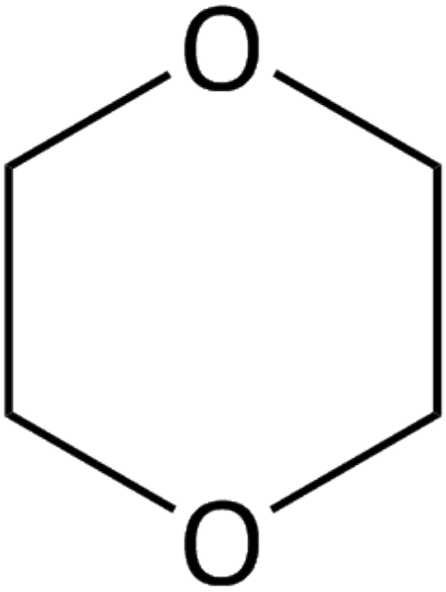

November 2024

This supplemental file contains information regarding the data extraction results for data sources that met the PECO screening criteria for the *Supplement to the Risk Evaluation for 1,4-Dioxane*. EPA performs data extraction as part of the TSCA systematic review process described in the Draft Systematic Review Protocol Supporting TSCA Risk Evaluations for Chemical Substances. The systematic review steps are further described in Appendix C of the *Supplement to the Risk Evaluation for 1,4-Dioxane*.

EPA conducted data quality evaluation and extraction based on author-reported descriptions and results; additional analyses (*e.g.*, statistical analyses) potentially conducted by EPA are not contained in this supplemental file. The data extraction results herein are organized by evidence streams and media types. A reference may contain data for multiple evidence streams and/or media types and will be cited in different tables if appropriate. In the data extraction results, "POINT VALUE(S)" denotes when the author(s) did not report a minimum, maximum, mean, or any other summary statistics, but rather single reported level(s) (*e.g.*, chemical concentration).

Acronyms and abbreviations used within this supplemental file are defined in the table at the end of this file. The two-letter country codes defined herein are consistent with those used in the searchable International Standardization Organization (ISO) 3166 standard for country codes. Finally, "NR" preceding a country code indicates that the author(s) did not report the city, state, and region. This supplemental file may also be referred to as the 1,4-Dioxane Supplement to the Risk Evaluation Data Extraction Information for General Population, Consumer, and Environmental Exposure.

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Table 1: Data Extraction Tables of Exposure Monitoring Studies for Drinking Water

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Raw water at two drinking water treatment plants (n = 2; DF = 1; Sampling Period: Dec. 2012 - Mar. 2013)	LOD: NR LOQ: 52 ng/L	POINT VALUE(S): [670 ng/L; 650 ng/L]				
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Treated water at two drinking water treatment plants (n = 3; DF = 1; Sampling Period: Dec. 2012 - Mar. 2013)	LOD: NR LOQ: 52 ng/L	POINT VALUE(S): [490 ng/L]				
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Finished water at one DWTP in Llobregat River basin (weekly monitoring); no spills detected (n = 89; DF = NR; Sampling Period: Mar. 2016 - Jan. 2018)	LOD: NR LOQ: 50 ng/L	NR	4356 ng/L	1062 ng/L (AM)	NR	923 ng/L (ASD)
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: DWTP intake from Llobregat River (seasonal monitoring to determine removal efficiency) (n = 4; DF = 1; Sampling Period: Mar. 2015 - Dec. 2015)	LOD: NR LOQ: 50 ng/L	POINT VALUE(S): [1315 ng/L; 1247 ng/L; 633 ng/L; 4315 ng/L]				
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: DWTP groundwater intake (seasonal monitoring to determine removal efficiency) (n = 2; DF = 1; Sampling Period: Mar. 2015 - Dec. 2015)	LOD: NR LOQ: 50 ng/L	POINT VALUE(S): [5715 ng/L; 7382 ng/L]				
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: DWTP finished water (seasonal monitoring to determine removal efficiency) (n = 4; DF = 1; Sampling Period: Mar. 2015 - Dec. 2015)	LOD: NR LOQ: 50 ng/L	POINT VALUE(S): [1573 ng/L; 608 ng/L; 529 ng/L; 4382 ng/L]				
Karges et al. 2020 ***HERO ID:*** *6392878* *OQD:* Medium	Berlin, Dresden, Leipzig area, Ruhr-area, Cologne, Dusseldorf, Nainz & Rhine-Hesse, Franken, Passau, Rhine-Main-area, Baden Wurtemberg, Mecklenburg- Western Pomerania, DE Scenario: Finished drinking water from managed aquifer recharge systems (n = 125; DF = 0.8; Sampling Period: Apr. 2015 - Feb. 2016)	LOD: 0.011 μg/L LOQ: 0.034 μg/L	<LOQ μg/L	2.05 μg/L	NR	NR	NR
Lee et al. 2021 ***HERO ID:*** *9565258* *OQD:* High	Long Island, NY, US Scenario: Tap water from 6 homes with on-site septic systems using Nitrogen Removing Biofilters (n = 23; DF = 0.087; Sampling Period: Nov. 2018 - Feb. 2020)	LOD: 0.05-0.25 μg/L LOQ: NR	<0.05 μg/L	0.13 μg/L	NR	NR	NR

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Karges et al. 2022 ***HERO ID:*** *9610324* *OQD:* High	Seven cities/regions including: Lower Franconia, Passau, Rhine Main Area, Dusseldorf, Leipzig and surrounding, Dresden, Berlin, DE Scenario: Finished drinking water from 7 regions, after implementation of emission mitigation measures at some sites (n = 44; DF = 0.86; Sampling Period: Summer 2017 - Fall 2018)	LOD: NR LOQ: 0.034 µg/L	ND µg/L	1.68 µg/L	0.54 µg/L (AM)	NR	NR

Table 2: Data Extraction Tables of Exposure Monitoring Studies for Groundwater

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: 20 wells in large metropolitan area, Dec 1996 (n = 20; DF = 0.85; Sampling Period: Dec. 1996 - Dec. 1996)	LOD: 0.1 μg/L LOQ: NR	NR	52.0 μg/L	NR	50th: 0.4 μg/L	NR
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: 20 wells in large metropolitan area, Nov 1995 (n = 20; DF = 0.90; Sampling Period: Nov. 1995 - Nov. 1995)	LOD: 0.1 μg/L LOQ: NR	NR	79.0 μg/L	NR	50th: 0.3 μg/L	NR
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: 20 wells in large metropolitan area, Nov 1997 (n = 20; DF = 0.65; Sampling Period: Nov. 1997 - Nov. 1997)	LOD: 0.1 μg/L LOQ: NR	NR	94.8 μg/L	NR	50th: 0.2 μg/L	NR
Carrera et al. 2017 ***HERO ID:*** *3537746* *OQD:* Medium	Barcelona, ES Scenario: Lower aquifer of Llobregat River - Site A (farthest from mouth) (n = 6; DF = 1; Sampling Period: Oct. 2015 - Nov. 2015)	LOD: NR LOQ: NR	285 ng/L	4513 ng/L	1679 ng/L (AM)	NR	1729 ng/L (ASD)
Carrera et al. 2017 ***HERO ID:*** *3537746* *OQD:* Medium	Barcelona, ES Scenario: Lower aquifer of Llobregat River - Site B (right bank of river) (n = 11; DF = 1; Sampling Period: Oct. 2015 - Nov. 2015)	LOD: NR LOQ: NR	435 ng/L	11190 ng/L	4781 ng/L (AM)	NR	3207 ng/L (ASD)
Carrera et al. 2017 ***HERO ID:*** *3537746* *OQD:* Medium	Barcelona, ES Scenario: Lower aquifer of Llobregat River - Site C (contaminated by chlorinated compounds in 1980s) (n = 19; DF = 1; Sampling Period: Oct. 2015 - Nov. 2015)	LOD: NR LOQ: NR	1419 ng/L	6837 ng/L	3590 ng/L (AM)	NR	1695 ng/L (ASD)
Carrera et al. 2017 ***HERO ID:*** *3537746* *OQD:* Medium	Barcelona, ES Scenario: Lower aquifer of Llobregat River - Site D (co-located with DWTP) (n = 28; DF = 1; Sampling Period: Oct. 2015 - Nov. 2015)	LOD: NR LOQ: NR	2863 ng/L	18728 ng/L	7913 ng/L (AM)	NR	3217 ng/L (ASD)
Carrera et al. 2017 ***HERO ID:*** *3537746* *OQD:* Medium	Barcelona, ES Scenario: Lower aquifer of Llobregat River - Site E (close to Mediterranean Sea) (n = 7; DF = 1; Sampling Period: Oct. 2015 - Nov. 2015)	LOD: NR LOQ: NR	1414 ng/L	241090 ng/L	50530 ng/L (AM)	NR	94050 ng/L (ASD)
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 201 - Source of plume at oil and gas facility impacted by chlorinated solvent spills (P&T method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 μg/L LOQ: NR	POINT VALUE(S): [590 μg/L]				
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 201 - Source of plume at oil and gas facility impacted by chlorinated solvent spills (FME method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 1.6 μg/L LOQ: NR	POINT VALUE(S): [560.5 μg/L]				

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 11 - Middle of plume at oil and gas facility impacted by chlorinated solvent spills (P&T method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 µg/L LOQ: NR	POINT VALUE(S): [18.3 µg/L]				
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 11 - Middle of plume at oil and gas facility impacted by chlorinated solvent spills (FME method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 µg/L LOQ: NR	POINT VALUE(S): [10.4 µg/L]				
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 33 - Edge of plume at oil and gas facility impacted by chlorinated solvent spills (FME method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 µg/L LOQ: NR	POINT VALUE(S): [2.5 µg/L]				
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 26 - Background control sample, away from oil and gas facility impacted by chlorinated solvent spills (P&T method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 µg/L LOQ: NR	POINT VALUE(S): [ND µg/L]				
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 33 - Edge of plume at oil and gas facility impacted by chlorinated solvent spills (P&T method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 µg/L LOQ: NR	POINT VALUE(S): [3 µg/L]				
Li et al. 2013 ***HERO ID:*** *3538108* *OQD:* Medium	North slope, US Scenario: Well MW 26 - Background control sample, away from oil and gas facility impacted by chlorinated solvent spills (FME method) (n = 1; DF = NR; Sampling Period: Aug. 2010 - Aug. 2010)	LOD: 3 µg/L LOQ: NR	POINT VALUE(S): [ND µg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Upgradient (250 ft) of plume at industrial Site 1 (n = 3; DF = 0; Sampling Period: 2014 - 2014)	LOD: 1 µg/L LOQ: NR	NR	NR	<LOD µg/L (AM)	NR	NR
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 1; Location 1-1 (source) (n = 9; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 µg/L LOQ: NR	POINT VALUE(S): [46050 µg/L; 30906 µg/L; 14214 µg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 1; Location 1-2 (200 ft from source) (n = 9; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 µg/L LOQ: NR	POINT VALUE(S): [1540 µg/L; 12035 µg/L; 19290 µg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 1; Location 1-4 (1,550 ft from source) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 µg/L LOQ: NR	POINT VALUE(S): [413 µg/L]				

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 1; Location 1-5 (3,900 ft from source) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [204 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 2; Location 2-1 (distance unknown) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [248 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 2; Location 2-2 (550 ft from location 2-1) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [7.5 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 3; Location 3-1 (source) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [7151 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 3; Location 3-2 (200 ft from source) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [2264 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 3; Location 3-3 (1,000 ft from source) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [876 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Plume from industrial Site 3; Location 3-4 (1,350 from source) (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [583 μg/L]				
Li et al. 2015 ***HERO ID:*** *3538109* *OQD:* Medium	California, US Scenario: Upgradient (550 ft) from plume at industrial Site 3; Location 3-5 (n = 3; DF = 1; Sampling Period: 2014 - 2014)	LOD: 1 μg/L LOQ: NR	POINT VALUE(S): [32.4 μg/L]				
Karges et al. 2018 ***HERO ID:*** *4167557* *OQD:* High	Western Germany, DE Scenario: Site A1 with known volatile chlorinated hydrocarbon pollution (n = 23; DF = 1; Sampling Period: Oct. 2014 - Nov. 2014)	LOD: NR LOQ: 36 ng/L	0.04 μg/L	1.73 μg/L	NR	NR	NR
Karges et al. 2018 ***HERO ID:*** *4167557* *OQD:* High	Western Germany, DE Scenario: Site A2 with known volatile chlorinated hydrocarbon pollution (n = 8; DF = NR; Sampling Period: Oct. 2014 - Jun. 2015)	LOD: NR LOQ: 36 ng/L	0.05 μg/L	0.15 μg/L	NR	NR	NR

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Karges et al. 2018 ***HERO ID:*** *4167557* *OQD:* High	Western Germany, DE Scenario: Site A3 with known volatile chlorinated hydrocarbon pollution (n = 1; DF = 1; Sampling Period: Oct. 2014 - Jun. 2015)	LOD: NR LOQ: 36 ng/L	NR	0.33 µg/L	NR	NR	NR
Karges et al. 2018 ***HERO ID:*** *4167557* *OQD:* High	Western Germany, DE Scenario: Site A4 with known volatile chlorinated hydrocarbon pollution (n = 2; DF = 1; Sampling Period: Oct. 2014 - Jun. 2015)	LOD: NR LOQ: 36 ng/L	0.18 µg/L	0.41 µg/L	NR	NR	NR
Karges et al. 2018 ***HERO ID:*** *4167557* *OQD:* High	Western Germany, DE Scenario: Site A5 (chemical factory) with known volatile chlorinated hydrocarbon pollution (n = 1; DF = 1; Sampling Period: Oct. 2014 - Jun. 2015)	LOD: NR LOQ: 36 ng/L	NR	152.11 µg/L	NR	NR	NR
Karges et al. 2018 ***HERO ID:*** *4167557* *OQD:* High	Western Germany, DE Scenario: Site C, Detergent manufacturing plant (n = 2; DF = 1; Sampling Period: Oct. 2014 - Jun. 2015)	LOD: NR LOQ: 36 ng/L	0.21 µg/L	36.18 µg/L	NR	NR	NR
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Groundwater from lower Llobregat River basin; background (Apr 23, 2015) (n = 6; DF = NR; Sampling Period: Apr. 2015 - Apr. 2015)	LOD: NR LOQ: NR	NR	NR	5734 ng/L (AM)	NR	1669 ng/L (ASD)
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Groundwater from lower Llobregat River basin; background (Oct 21, 2015) (n = 11; DF = NR; Sampling Period: Oct. 2015 - Oct. 2015)	LOD: NR LOQ: NR	NR	NR	7531 ng/L (AM)	NR	2296 ng/L (ASD)
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Groundwater from lower Llobregat River basin; background (Oct 22, 2015) (n = 3; DF = NR; Sampling Period: Oct. 2015 - Oct. 2015)	LOD: NR LOQ: NR	NR	NR	8068 ng/L (AM)	NR	607 ng/L (ASD)
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Groundwater from lower Llobregat River basin; during Dioxanes contamination episode (Nov 3 and Nov 5, 2015) (n = 2; DF = NR; Sampling Period: Nov. 2015 - Nov. 2015)	LOD: NR LOQ: 50 ng/L	POINT VALUE(S): [9241 ng/L; 11570 ng/L]				
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Groundwater from lower Llobregat River basin; background (Dec 20, 2106) (n = 1; DF = NR; Sampling Period: Dec. 2016 - Dec. 2016)	LOD: NR LOQ: NR	POINT VALUE(S): [8319 ng/L]				
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Groundwater from lower Llobregat River basin; background (Dec 19, 2107) (n = 2; DF = NR; Sampling Period: Dec. 2017 - Dec. 2017)	LOD: NR LOQ: NR	NR	NR	4053 ng/L (AM)	NR	403 ng/L (ASD)

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Matsushita et al. 2019 ***HERO ID:*** *6575251* *OQD:* Low	Tachikawa, JP Scenario: Groundwater naturally contaminated with 1,4-dioxane (n = 3; DF = 1; Sampling Period: 2019 - 2019)	LOD: NR LOQ: NR	POINT VALUE(S): [95 µg/L; 55 µg/L; 36 µg/L]				
Simazaki et al. 2006 ***HERO ID:*** *6839456* *OQD:* Medium	NR, JP Scenario: Groundwater collected in 2001 at 11 drinking water treatment plants (n = 11; DF = 0.636; Sampling Period: Nov. 2001 - Nov. 2001)	LOD: 0.05 µg/L LOQ: NR	NR	1.77 µg/L	0.61 µg/L (AM)	NR	NR
Simazaki et al. 2006 ***HERO ID:*** *6839456* *OQD:* Medium	NR, JP Scenario: Groundwater collected in 2002 at 29 drinking water treatment plants (n = 29; DF = 0.76; Sampling Period: Oct. 2002 - Oct. 2002)	LOD: 0.05 µg/L LOQ: NR	NR	5.52 µg/L	1.00 µg/L (AM)	NR	NR

Table 3: Data Extraction Tables of Exposure Monitoring Studies for Indoor Air

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Caron-Beaudoin et al. 2022 ***HERO ID:*** *9567272* *OQD:* High	Northeastern British Columbia, Peace River Valley, CA Scenario: Indoor air from homes of 85 pregnant women in area of area of unconventional natural gas exploitationby hydraulic fracturing (EXPERIVA study) (n = 85; DF = ≥0.59; Sampling Period: May 2019 - Sept. 2019)	LOD: 0.2 µg/m3 LOQ: NR	NR	NR	NR	10th: <MRL µg/m3 50th: 0.1 µg/m3 95th:2.58 µg/m3	NR

Table 4: Data Extraction Tables of Exposure Monitoring Studies for Personal Inhalation

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Harley et al. 2021 ***HERO ID:*** *9551210* *OQD:* High	Salinas, California, US Scenario: Personal air samples from 49 Latina women while cleaning their home with "regular" cleaning products (n = 49; DF = 1; Sampling Period: Jun. 2019 - Aug. 2019)	LOD: 0.09 µg/m3 LOQ: NR	NR	7.38 µg/m3	0.57 µg/m3 (GM)	25th: 0.19 µg/m3 50th: 0.54 µg/m3 75th: 1.95 µg/m3 95th:4.89 µg/m3	NR
Harley et al. 2021 ***HERO ID:*** *9551210* *OQD:* High	Salinas, California, US Scenario: Personal air samples from 49 Latina women while cleaning their home with "green" cleaning products (n = 49; DF = 0.959; Sampling Period: Jun. 2019 - Aug. 2019)	LOD: 0.09 µg/m3 LOQ: NR	NR	3.48 µg/m3	0.31 µg/m3 (GM)	25th: 0.13 µg/m3 50th: 0.32 µg/m3 75th: 0.76 µg/m3 95th:1.24 µg/m3	NR

Table 5: Data Extraction Tables of Exposure Monitoring Studies for Surface Water

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: Seven rivers in large metropolitan area, Jan 1996 (n = 7; DF = 1; Sampling Period: Jan. 1996 - Jan. 1996)	LOD: 0.1 µg/L LOQ: NR	NR	16.0 µg/L	NR	50th: 0.9 µg/L	NR
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: Seven rivers in large metropolitan area, Sep 1996 (n = 7; DF = 1; Sampling Period: Sept. 1996 - Sept. 1996)	LOD: 0.1 µg/L LOQ: NR	NR	2.9 µg/L	NR	50th: 0.5 µg/L	NR
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: Seven rivers in large metropolitan area, Jan 1997 (n = 7; DF = 1; Sampling Period: Jan. 1997 - Jan. 1997)	LOD: 0.1 µg/L LOQ: NR	NR	3.2 µg/L	NR	50th: 0.9 µg/L	NR
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: Seven rivers in large metropolitan area, Sept 1997 (n = 7; DF = 1; Sampling Period: Sept. 1997 - Sept. 1997)	LOD: 0.1 µg/L LOQ: NR	NR	1.9 µg/L	NR	50th: 0.3 µg/L	NR
Abe et al. 1999 ***HERO ID:*** *194346* *OQD:* Medium	Kanagawa, JP Scenario: Seven rivers in large metropolitan area, Jan 1998 (n = 7; DF = 1; Sampling Period: Jan. 1998 - Jan. 1998)	LOD: 0.1 µg/L LOQ: NR	NR	2.6 µg/L	NR	50th: 0.4 µg/L	NR
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Lippe River (n = 1; DF = NR; Sampling Period: Oct. 2011 - Oct. 2011)	LOD: 0.016 µg/L LOQ: 0.052 µg/L			POINT VALUE(S): [0.672 µg/L]		
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Schwarzbach River (n = 1; DF = 1; Sampling Period: Oct. 2011 - Oct. 2011)	LOD: 0.016 µg/L LOQ: 0.052 µg/L			POINT VALUE(S): [0.200 µg/L]		
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Rur River (n = 1; DF = 1; Sampling Period: Oct. 2011 - Oct. 2011)	LOD: 0.016 µg/L LOQ: 0.052 µg/L			POINT VALUE(S): [1.28 µg/L]		
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Rhein River (n = 10; DF = 1; Sampling Period: Oct. 2011 - Oct. 2011)	LOD: 0.016 µg/L LOQ: 0.052 µg/L	0.364 µg/L	1.92 µg/L	NR	50th: 0.970 µg/L	NR
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Wesel-Datteln Canal (n = 4; DF = 1; Sampling Period: Oct. 2011 - Oct. 2011)	LOD: 0.016 µg/L LOQ: 0.052 µg/L	0.047 µg/L	0.093 µg/L	NR	50th: 0.067 µg/L	NR
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Main River (n = 6; DF = 1; Sampling Period: Oct. 2011 - Oct. 2011)	LOD: 0.016 µg/L LOQ: 0.052 µg/L	0.226 µg/L	1.12 µg/L	NR	50th: 0.506 µg/L	NR
Stepien et al. 2013 ***HERO ID:*** *2228940* *OQD:* Medium	Various water bodies, DE Scenario: Oder River (n = 4; DF = 1; Sampling Period: Feb. 2012 - Feb. 2012)	LOD: 0.016 µg/L LOQ: 0.052 µg/L	0.782 µg/L	0.891 µg/L	NR	50th: 0.816 µg/L	NR

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Oder River (n = 49; DF = 1; Sampling Period: Jan. 2012 - Apr. 2013)	LOD: NR LOQ: 52 ng/L	140 ng/L	2200 ng/L	660 ng/L (AM)	50th: 550 ng/L	NR
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Rhine River (n = 19; DF = 1; Sampling Period: Aug. 2012 - May 2013)	LOD: NR LOQ: 52 ng/L	210 ng/L	860 ng/L	470 ng/L (AM)	50th: 440 ng/L	NR
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Main River (n = 15; DF = 1; Sampling Period: Apr. 2013 - Apr. 2013)	LOD: NR LOQ: 52 ng/L	110 ng/L	860 ng/L	490 ng/L (AM)	50th: 530 ng/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point A) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	<MRL µg/L	0.6 µg/L	NR	25th: 0.12 µg/L 50th: 0.2 µg/L 75th: 0.25 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point B) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	1.0 µg/L	268 µg/L	NR	25th: 15.3 µg/L 50th: 40.7 µg/L 75th: 104 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point C) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	0.7 µg/L	4.5 µg/L	NR	25th: 1.44 µg/L 50th: 2.01 µg/L 75th: 3.29 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point D) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	2.8 µg/L	78 µg/L	NR	25th: 8.98 µg/L 50th: 29.4 µg/L 75th: 59.4 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point E) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	0.2 µg/L	3.8 µg/L	NR	25th: 0.63 µg/L 50th: 1.81 µg/L 75th: 2.52 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point F) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	4.8 µg/L	436 µg/L	NR	25th: 15.12 µg/L 50th: 29.19 µg/L 75th: 144.27 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point G) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	6.26 µg/L	164.35 µg/L	NR	25th: 15.37 µg/L 50th: 46.12 µg/L 75th: 121.06 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point H) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	NR	NR	NR	25th: 10.59 µg/L 50th: 30.58 µg/L 75th: 48.84 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point I) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	NR	NR	NR	25th: 11.13 µg/L 50th: 30.79 µg/L 75th: 48.18 µg/L	NR

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point J) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	7.88 µg/L	154.69 µg/L	NR	25th: 12.69 µg/L 50th: 16.79 µg/L 75th: 36.76 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point K) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	9.34 µg/L	49.79 µg/L	NR	25th: 16.16 µg/L 50th: 29.56 µg/L 75th: 40.34 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point L) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	2.98 µg/L	35.82 µg/L	NR	25th: 13.96 µg/L 50th: 18.04 µg/L 75th: 31.8 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point M) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	1.56 µg/L	24.93 µg/L	NR	25th: 3.25 µg/L 50th: 8.3 µg/L 75th: 9.49 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point N) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	1.09 µg/L	18.36 µg/L	NR	25th: 2.95 µg/L 50th: 5 µg/L 75th: 9.49 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Upstream of WWTP discharge (Point O) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	0.7 µg/L	4.46 µg/L	NR	25th: 1.47 µg/L 50th: 2 µg/L 75th: 3.19 µg/L	NR
Sun et al. 2016 ***HERO ID:*** *3539133* *OQD:* High	Cape Fear River watershed, NC, US Scenario: Downstream of WWTP discharge (Point P) (n = 10; DF = NR; Sampling Period: Oct. 2014 - Jul. 2015)	LOD: 0.056 µg/L LOQ: 0.15 µg/L	NR	NR	NR	25th: 1.42 µg/L 50th: 1.8 µg/L 75th: 2.15 µg/L	NR
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Raw water intake at one DWTP in Llobregat River basin (weekly monitoring); during period of contamination events (n = 137; DF = NR; Sampling Period: Mar. 2015 - Apr. 2016)	LOD: NR LOQ: 50 ng/L	NR	32370 ng/L	4360 ng/L (AM)	NR	4939 ng/L (ASD)
Carrera et al. 2019 ***HERO ID:*** *5078959* *OQD:* Medium	Sant Joan Despi, ES Scenario: Raw water intake one DWTP in Llobregat River basin (weekly monitoring); no spills detected (n = 82; DF = NR; Sampling Period: May 2016 - Jan. 2018)	LOD: NR LOQ: 50 ng/L	NR	1828 ng/L	815 ng/L (AM)	NR	327 ng/L (ASD)
Karges et al. 2020 ***HERO ID:*** *6392878* *OQD:* Medium	Berlin, Dresden, Leipzig area, Ruhr-area, Cologne, Dusseldorf, Nainz & Rhine-Hesse, Franken, Passau, Rhine-Main-area, Baden Wurtemberg, Mecklenburg- Western Pomerania, DE Scenario: Surface water supplying managed aquifer recharge systems; known 1,4-dioxane contamination (n = 33; DF = 0.8; Sampling Period: Apr. 2015 - Feb. 2016)	LOD: 0.011 µg/L LOQ: 0.034 µg/L	<LOQ µg/L	3.0 µg/L	NR	NR	NR
Battaglin et al. 2020 ***HERO ID:*** *6838249* *OQD:* Medium	Illinois, US Scenario: Upper Illinois Waterway (n = 28; DF = 0.5; Sampling Period: May 2015 - Oct. 2015)	LOD: NR LOQ: NR	NR	8000 ng/L	NR	NR	NR

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Simazaki et al. 2006 ***HERO ID:*** *6839456* *OQD:* Medium	NR, JP Scenario: Surface water collected in 2001 at 80 drinking water treatment plants (n = 80; DF = 0.4; Sampling Period: Nov. 2001 - Nov. 2001)	LOD: 0.05 µg/L LOQ: NR	NR	NR	0.20 µg/L (AM)	NR	NR
Nahar et al. 2011 ***HERO ID:*** *6841317* *OQD:* Low	Shizuoka, JP Scenario: Uzui River, polluted river with paper and chemical plants (n = 34; DF = NR; Sampling Period: Mar. 2010 - Mar. 2010)	LOD: NR LOQ: NR	NR	66.6 µg/L	NR	NR	NR
Karges et al. 2022 ***HERO ID:*** *9610324* *OQD:* High	Seven cities/regions including: Lower Franconia, Passau, Rhine Main Area, Dusseldorf, Leipzig and surrounding, Dresden, Berlin, DE Scenario: Various rivers from 7 regions, collected more than 2 km downstream from dischargers after implementation of emission mitigation measures at some sites (n = 86; DF = >0.9; Sampling Period: Summer 2017 - Fall 2018)	LOD: NR LOQ: 0.048 µg/L	ND µg/L	10.37 µg/L	NR	NR	NR

Table 6: Data Extraction Tables of Exposure Monitoring Studies for Wastewater

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Ramírez et al. 2011 ***HERO ID:*** *1061745* *OQD:* Medium	Tarragona City, ES Scenario: Headspace air from WWTP collecting tank after the primary sedimentation (Site 1) (n = <16; DF = NR; Sampling Period: Nov. 2008 - Nov. 2008)	LOD: 1.33 µg/m3 LOQ: 1.67 µg/m3	14.2 µg/m3	105 µg/m3	42 µg/m3 (AM)	NR	NR
Ramírez et al. 2011 ***HERO ID:*** *1061745* *OQD:* Medium	Tarragona City, ES Scenario: Headspace air from WWTP secondary treatment tank (Site 2) (n = <16; DF = NR; Sampling Period: Nov. 2008 - Nov. 2008)	LOD: 1.33 µg/m3 LOQ: 1.67 µg/m3	21.6 µg/m3	63.1 µg/m3	43.8 µg/m3 (AM)	NR	NR
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP SS (major sources are textile and dyeing) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 µg/L LOQ: NR	POINT VALUE(S): [20.8 µg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP DS (major sources are textile, fabric, and metal molding) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 µg/L LOQ: NR	POINT VALUE(S): [6.27 µg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP DA (major sources are metal molding and chemistry) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 µg/L LOQ: NR	POINT VALUE(S): [4.04 µg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP GJ (major sources are textile and food) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 µg/L LOQ: NR	POINT VALUE(S): [6.30 µg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP NC (major sources are textile and fiber) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 µg/L LOQ: NR	POINT VALUE(S): [1.14 µg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP SP (major source is paper) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 µg/L LOQ: NR	POINT VALUE(S): [9.81 µg/L]				

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP YS (major sources are metal molding and food) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [6.44 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP UG (major sources are chemistry and food) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [23.16 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Influent at on-site industrial WWTP CS (major sources are food and paper) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [6.40 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP SS (major sources are textile and dyeing) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [18.21 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP DS (major sources are textile, fabric, and metal molding) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [12.19 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP DA (major sources are metal molding and chemistry) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [3.15 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP GJ (major sources are textile and food) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [0.97 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP NC (major sources are textile and fiber) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [2.47 μg/L]				

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP SP (major source is paper) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [11.37 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP CS (major sources are food and paper) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [0.76 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP YS (major sources are metal molding and food) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [7.16 μg/L]				
Lee et al. 2011 ***HERO ID:*** *1787908* *OQD:* Medium	Daegu, Jinju, Haman, and Yangsan city; along Nakdong River, KR Scenario: Effluent from on-site industrial WWTP UG (major sources are chemistry and food) (n = 1; DF = 1; Sampling Period: Dec. 2005 - Dec. 2005)	LOD: 0.35 μg/L LOQ: NR	POINT VALUE(S): [2.85 μg/L]				
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Influent at a municipal sewage treatment plant (STP B) (n = 8; DF = 1; Sampling Period: Oct. 2012 - Jul. 2013)	LOD: NR LOQ: 52 ng/L	NR	NR	340 ng/L (AM)	NR	62 ng/L (ASD)
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Influent at a municipal sewage treatment plant (STP D) (n = 7; DF = 1; Sampling Period: Oct. 2012 - Jul. 2013)	LOD: NR LOQ: 52 ng/L	NR	NR	516 ng/L (AM)	NR	73 ng/L (ASD)
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Influent at municipal sewage treatment plant (STP A) (n = 7; DF = 1; Sampling Period: Oct. 2012 - Jul. 2013)	LOD: NR LOQ: 52 ng/L	NR	NR	262 ng/L (AM)	NR	32 ng/L (ASD)
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Influent at a municipal sewage treatment plant (STP C) (n = 14; DF = 1; Sampling Period: Oct. 2012 - Jul. 2013)	LOD: NR LOQ: 52 ng/L	NR	NR	834 ng/L (AM)	NR	480 ng/L (ASD)
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Effluent at a municipal sewage treatment plant (STP A) (n = NR; DF = 1; Sampling Period: Oct. 2012 - Jul. 2013)	LOD: NR LOQ: 52 ng/L	NR	NR	267 ng/L (AM)	NR	35 ng/L (ASD)

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Stepien et al. 2014 ***HERO ID:*** *2545899* *OQD:* Medium	Various locations, DE,PL Scenario: Effluent at a municipal sewage treatment plant (STP C) (n = NR; DF = 1; Sampling Period: Oct. 2012 - Jul. 2013)	LOD: NR LOQ: 52 ng/L	NR	NR	62260 ng/L (AM)	NR	36000 ng/L (ASD)
Han et al. 2009 ***HERO ID:*** *3537968* *OQD:* Low	Gumi, KR Scenario: Influent to an on-site biological wastewater treatment system at a polyester fiber manufacturing facility (Site H) (n = 1; DF = 1; Sampling Period: 2007 - 2007)	LOD: NR LOQ: NR	POINT VALUE(S): [75.7 μg/L]				
Han et al. 2009 ***HERO ID:*** *3537968* *OQD:* Low	Gumi, KR Scenario: Influent to an on-site biological wastewater treatment system at a polyester fiber manufacturing facility (Site K) (n = 1; DF = 1; Sampling Period: 2007 - 2007)	LOD: NR LOQ: NR	POINT VALUE(S): [2.55 μg/L]				
Han et al. 2009 ***HERO ID:*** *3537968* *OQD:* Low	Gumi, KR Scenario: Influent to an on-site biological wastewater treatment system at a polyester fiber manufacturing facility (Site T) (n = 1; DF = 1; Sampling Period: 2007 - 2007)	LOD: NR LOQ: NR	POINT VALUE(S): [315.84 μg/L]				
Han et al. 2009 ***HERO ID:*** *3537968* *OQD:* Low	Gumi, KR Scenario: Effluent from on-site biological wastewater treatment system at a polyester fiber manufacturing facility (Site H) (n = 1; DF = 1; Sampling Period: 2007 - 2007)	LOD: NR LOQ: NR	POINT VALUE(S): [1.41 μg/L]				
Han et al. 2009 ***HERO ID:*** *3537968* *OQD:* Low	Gumi, KR Scenario: Effluent from on-site biological wastewater treatment system at a polyester fiber manufacturing facility (Site K) (n = 1; DF = 1; Sampling Period: 2007 - 2007)	LOD: NR LOQ: NR	POINT VALUE(S): [0.59 μg/L]				
Han et al. 2009 ***HERO ID:*** *3537968* *OQD:* Low	Gumi, KR Scenario: Effluent from on-site biological wastewater treatment system at a polyester fiber manufacturing facility (Site T) (n = 2; DF = 1; Sampling Period: 2007 - 2007)	LOD: NR LOQ: NR	POINT VALUE(S): [133.17 μg/L; 23.61 μg/L]				
Simonich et al. 2013 ***HERO ID:*** *3539074* *OQD:* High	Texas, Oklahoma, Kansas, California, Oregon, Illinois, Indiana, Ohio, Kentucky, New Jersey, New York, Pennsylvania, Georgia, Tennessee, US Scenario: Effluent from 40 municipal activated sludge WWTPs that receive predominantly domestic wastewater (n = 40; DF = 0.95; Sampling Period: Mar. 2010 - Nov. 2010)	LOD: NR LOQ: 0.3 μg/L	<0.30 μg/L	3.30 μg/L	1.11 μg/L (AM)	10th: 0.40 μg/L 50th: 1.13 μg/L 90th: 1.75 μg/L	0.60 μg/L (ASD)
Lee et al. 2015 ***HERO ID:*** *3580141* *OQD:* Medium	NR, KR Scenario: Influent at 27 industrial WWTPs (n = 81; DF = NR; Sampling Period: Jul. 2012 - Sept. 2012)	LOD: 0.001 mg/L LOQ: NR	ND mg/L	0.315 mg/L	NR	25th: ND mg/L 50th: ND mg/L 75th: 0.004 mg/L	NR

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Table 6 – continued from previous page

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Lee et al. 2015 ***HERO ID:*** *3580141* *OQD:* Medium	NR, KR Scenario: Effluent from 27 industrial WWTPs (n = 81; DF = NR; Sampling Period: Jul. 2012 - Sept. 2012)	LOD: 0.001 mg/L LOQ: NR	ND mg/L	0.043 mg/L	NR	25th: ND mg/L 50th: ND mg/L 75th: 0.002 mg/L	NR
Osama et al. 2021 ***HERO ID:*** *9564851* *OQD:* Low	Borg Al-Arab industrial city, Alexandria, EG Scenario: Influent from a polyester resin chemical facility to a duckweed pond system (n = 84; DF = NR; Sampling Period: 2021 - 2021)	LOD: NR LOQ: NR	16.1 mg/L	411.6 mg/L	113.4 mg/L (AM)	NR	77.2 mg/L (ASD)
Osama et al. 2021 ***HERO ID:*** *9564851* *OQD:* Low	Borg Al-Arab industrial city, Alexandria, EG Scenario: Effluent from duckweed pond system treating polyester resin wastewater (n = 84; DF = NR; Sampling Period: 2021 - 2021)	LOD: NR LOQ: NR	NR	NR	34.9 mg/L (AM)	NR	3.2 mg/L (ASD)
Lee et al. 2021 ***HERO ID:*** *9565258* *OQD:* High	Long Island, NY, US Scenario: Septic tank effluent from 6 homes, prior to passing through a Nitrogen Removing Biofilter (n = 37; DF = 1; Sampling Period: Nov. 2018 - Feb. 2020)	LOD: 0.05-0.25 μg/L LOQ: NR	0.07 μg/L	8.45 μg/L	1.49 μg/L (AM)	NR	1.57 μg/L (ASD)
Lee et al. 2021 ***HERO ID:*** *9565258* *OQD:* High	Long Island, NY, US Scenario: Septic tank effluent from 6 homes, after passing through a Nitrogen Removing Biofilter (n = 34; DF = NR; Sampling Period: Nov. 2018 - Feb. 2020)	LOD: 0.05-0.25 μg/L LOQ: NR	$<$0.05 μg/L	2.64 μg/L	0.62 μg/L (AM)	NR	NR
Karges et al. 2022 ***HERO ID:*** *9610324* *OQD:* High	Seven cities/regions including: Lower Franconia, Passau, Rhine Main Area, Dusseldorf, Leipzig and surrounding, Dresden, Berlin, DE Scenario: WWTP effluent discharges from 12 sites, after implementation of emission mitigation measures at some sites (n = 18; DF = 1; Sampling Period: Summer 2017 - Fall 2018)	LOD: NR LOQ: 0.048 μg/L	5 μg/L	1750 μg/L	NR	NR	NR

Table 7: Data Extraction Tables of Exposure Modeling Studies for Human Biomonitoring

Citation Information	Site and Data Description	Min	Max	Mean	Percentile	Variance
Fisher et al. 1997 ***HERO ID:*** *194390* *OQD:* Medium	NR, US (Author Affiliation) Scenario: Modeled 24-hr infant exposure via ingestion of breast-milk from an occupationally exposed mother	POINT VALUE(S): [0.559 mg/day]				
Valcke et al. 2012 ***HERO ID:*** *1260919* *OQD:* High	NR, CA (Modeled Location) Scenario: Estimated blood concentration in adults from chronic inhalation	NR	NR	NR	1st: 285 μg/L 50th: 763 μg/L 99th: 2119 μg/L	NR
Valcke et al. 2012 ***HERO ID:*** *1260919* *OQD:* High	NR, CA (Modeled Location) Scenario: Estimated blood concentration in neonates from chronic inhalation	NR	NR	NR	1st: 682 μg/L 50th: 2299 μg/L 99th: 6486 μg/L	NR
Valcke et al. 2012 ***HERO ID:*** *1260919* *OQD:* High	NR, CA (Modeled Location) Scenario: Estimated blood concentration in infants from chronic inhalation	NR	NR	NR	1st: 420 μg/L 50th: 1150 μg/L 99th: 2928 μg/L	NR
Valcke et al. 2012 ***HERO ID:*** *1260919* *OQD:* High	NR, CA (Modeled Location) Scenario: Estimated blood concentration in toddlers from chronic inhalation	NR	NR	NR	1st: 382 μg/L 50th: 968 μg/L 99th: 2099 μg/L	NR
Valcke et al. 2012 ***HERO ID:*** *1260919* *OQD:* High	NR, CA (Modeled Location) Scenario: Estimated blood concentration in children/adolescents from chronic inhalation	NR	NR	NR	1st: 352 μg/L 50th: 774 μg/L 99th: 1744 μg/L	NR
Valcke et al. 2012 ***HERO ID:*** *1260919* *OQD:* High	NR, CA (Modeled Location) Scenario: Estimated blood concentration in elderly from chronic inhalation	NR	NR	NR	1st: 286 μg/L 50th: 766 μg/L 99th: 2144 μg/L	NR

Table 8: Data Extraction Tables of Exposure Modeling Studies for Drinking Water

Citation Information	Site and Data Description	Min	Max	Mean	Percentile	Variance
Simonich et al. 2013 ***HERO ID:*** *3539074* *OQD:* Medium	NR, US (Modeled Location) Scenario: Modeled concentrations at US drinking water intakes exposed to domestic WWTP effluents	NR	NR	NR	50th: 0.0041 µg/L 90th: 0.030 µg/L 99th: 0.16 µg/L	NR

Table 9: Data Extraction Tables of Exposure Modeling Studies for Product/Article

Citation Information	Site and Data Description	Min	Max	Mean	Percentile	Variance
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Tsukuba city, JP (Product Source) Scenario: Modeled adult consumer inhalation exposure to dishwashing liquid	NR	NR	0.01 mg/day (AM)	50th: 0.0028 mg/day 5th: 0.00011 mg/day 95th:0.04 mg/day	0.028 mg/day (ASD)
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Tsukuba city, JP (Product Source) Scenario: Modeled adult consumer dermal exposure to dishwashing liquid	NR	NR	0.0058 mg/day (AM)	50th: 0.0017 mg/day 5th: 0.000078 mg/day 95th:0.024 mg/day	0.015 mg/day (ASD)

Table 10: Data Extraction Tables of Exposure Modeling Studies for Ambient Air

Citation Information	Site and Data Description	Min	Max	Mean	Percentile	Variance
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, Kudamatsu observatory data, 5m stack height	NR	855 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, Kudamatsu observatory data, 10m stack height	NR	512 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, Yanai observatory data, 5m stack height	NR	551 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, Yanai observatory data, 10m stack height	NR	223 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, residential zone, Kudamatsu observatory data, 5m stack height	NR	8.6 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, residential zone, Kudamatsu observatory data, 10m stack height	NR	5.1 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, residential zone, Yanai observatory data, 5m stack height	NR	275 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near pharmaceutical plant A, residential zone, Yanai observatory data, 10m stack height	NR	111 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Hikari, Yamaguchi Prefecture, JP (Modeled Location) Scenario: Modeled Adult residential inhalation dose from ambient air near pharmaceutical plant A	1.5 mg/day	82.5 mg/day	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled Adult residential inhalation dose from ambient air near chemical manufacturing plant B	0.8 mg/day	1.6 mg/day	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, Fukuda observatory data, 5m stack height	NR	137 μg/m3	NR	NR	NR

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Citation Information	Site and Data Description	Min	Max	Mean	Percentile	Variance
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, Fukuda observatory data, 10m stack height	NR	36 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, Omaezaki observatory data, 5m stack height	NR	61 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, Omaezaki observatory data, 10m stack height	NR	14 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, residential zone, Fukuda observatory data, 5m stack height	NR	5.2 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, residential zone, Fukuda observatory data, 10m stack height	NR	4.1 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, residential zone, Omaezaki observatory data, 5m stack height	NR	3.6 μg/m3	NR	NR	NR
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* High	Daito, Shizuoka Prefecture, JP (Modeled Location) Scenario: Modeled ambient air concentrations near chemical manufacturing plant B, residential zone, Omaezaki observatory data, 10m stack height	NR	2.6 μg/m3	NR	NR	NR

Table 11: Data Extraction Tables of Exposure Experimental Studies for Consumer Products

Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Adhesive related products (n = 76; DF = 0.03)	LOD: 0.1 % LOQ: NR	NR	NR	2.0 % (AM)	NR	NR
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Household Cleaners/ Polishes (n = 111; DF = 0.01)	LOD: 0.1 % LOQ: NR	NR	NR	150.0 % (AM)	NR	NR
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Automotive Products (n = 167; DF = 0)	LOD: 0.1 % LOQ: NR	NR	NR	0 % (AM)	NR	NR
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Cleaners for Electronic Equipment (n = 69; DF = 0)	LOD: 0.1 % LOQ: NR	NR	NR	0 % (AM)	NR	NR
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Oils, Greases and Lubricants (n = 111; DF = 0)	LOD: 0.1 % LOQ: NR	NR	NR	0 % (AM)	NR	NR
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Fabric and Leather Treatments (n = 91; DF = 0)	LOD: 0.1 % LOQ: NR	NR	NR	0 % (AM)	NR	NR
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Paint-related Products (n = 463; DF = 0)	LOD: 0.1 % LOQ: NR	NR	NR	0 % (AM)	NR	NR

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Sack et al. 1992 ***HERO ID:*** *28339* *OQD:* Medium	Washington, District of Columbia; Denver, Colorado; Houston, Texas; San Francisco, California; Chicago, Illinois; Miami, Florida, US (Product Source) Scenario: Measured Concentration in Miscellaneous Cleaning and Other Household Products Products (n = 71; DF = 0)	LOD: 0.1 % LOQ: NR	NR	NR	0 % (AM)	NR	NR
Saraji et al. 2017 ***HERO ID:*** *3538324* *OQD:* Medium	Isfahan, Iran, IR (Product Source) Scenario: Measured concentration in Dishwashing Liquid (n = 1; DF = 0)	LOD: 0.4 μg/g LOQ: NR	POINT VALUE(S): [<0.4 μg/g]				
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* Low	Tsukuba City, JP (Product Source) Scenario: Measured concentration in Dishwashing Liquid (mg/L) (n = 4; DF = 0.25)	LOD: 10 mg/L LOQ: NR	POINT VALUE(S): [<10 mg/L; 51 mg/L; <10 mg/L]				
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* Low	Tsukuba City, JP (Product Source) Scenario: Measured concentration in Dishwashing Liquid (mg/kg) (n = 4; DF = 0.25)	LOD: 5 mg/kg LOQ: NR	POINT VALUE(S): [<5 mg/kg; <5 mg/kg]				
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* Low	Tsukuba City, JP (Product Source) Scenario: Measured concentration in Bath Detergent (mg/L) (n = 3; DF = 0.33)	LOD: 2.5-5 mg/L LOQ: NR	POINT VALUE(S): [<5 mg/L; <2.5 mg/L; 6.4 mg/L]				
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* Low	Tsukuba City, JP (Product Source) Scenario: Measured concentration in Car Detergent (mg/L) (n = 2; DF = 0.50)	LOD: 2.5 mg/L LOQ: NR	POINT VALUE(S): [<2.5 mg/L; 38 mg/L]				
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* Low	Tsukuba City, JP (Product Source) Scenario: Measured concentration in Laundry Detergent (mg/L) (n = 4; DF = 0)	LOD: 10-25 mg/L LOQ: NR	POINT VALUE(S): [<10 mg/L; <25 mg/L]				
Makino et al. 2006 ***HERO ID:*** *3660508* *OQD:* Low	Tsukuba City, JP (Product Source) Scenario: Measured concentration in Laundry Detergent (mg/kg) (n = 4; DF = 0)	LOD: 5 mg/kg LOQ: NR	POINT VALUE(S): [<5 mg/kg]				
Potter et al. 2021 ***HERO ID:*** *9415402* *OQD:* Medium	Cincinnati, OH and Baton Rouge, LA, US (Author Affiliation) Scenario: Measured emission rate from PLA-CNT 3D printer filaments reacting in a chamber study under pyrolytic conditions (n = 1; DF = 1)	LOD: NR LOQ: NR	POINT VALUE(S): [73.18 μg/g]				

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Citation Information	Site and Data Description	Limit (LOD/LOQ)	Min	Max	Mean	Percentile	Variance
Potter et al. 2021 ***HERO ID:*** *9415402* *OQD:* Medium	Cincinnati, OH and Baton Rouge, LA, US (Author Affiliation) Scenario: Measured emission rate from PLA-CNT 3D printer filament reacting in a chamber study under oxidative conditions (n = 1; DF = 1)	LOD: NR LOQ: NR	POINT VALUE(S): [24.70 μg/g]				

Table 12: List of Abbreviations and Acronyms for Data Extraction Tables

Term	Definition
%	Percent
AM	Arithmetic mean
ASD	Arithmetic standard deviation
DE	Germany
DF	Detection frequency
DWTP	Drinking water treatment plant
EG	Egypt
EPA	Environmental Protection Agency
ES	Spain
GM	Geometric mean
IR	Iran
ISO	International Organization for Standardization
JP	Japan
KR	Republic of Korea
LA	Louisiana
LOD	Limit of detection
LOQ	Limit of quantification
m	Meter
MRL	Method reporting limit
mg/day	Milligrams per day
mg/kg	Milligrams per kilograms
mg/L	Milligrams per liter
n	Number of samples
NC	North Carolina
ND	Non-detect
ng/L	Nanograms per liter
ng/m^3	Nanograms per cubic meters
NR	Not reported
NY	New York
OH	Ohio
OQD	Overall quality determination
PL	Poland
PLA-CNT	Polylactic Acid-Carbon Nanotubes
μg/g	Micrograms per gram
μg/kg	Micrograms per kilogram
μg/L	Micrograms per liter
μg/m^3	Micrograms per cubic meter
US	United States
WWTP	Wastewater treatment plant